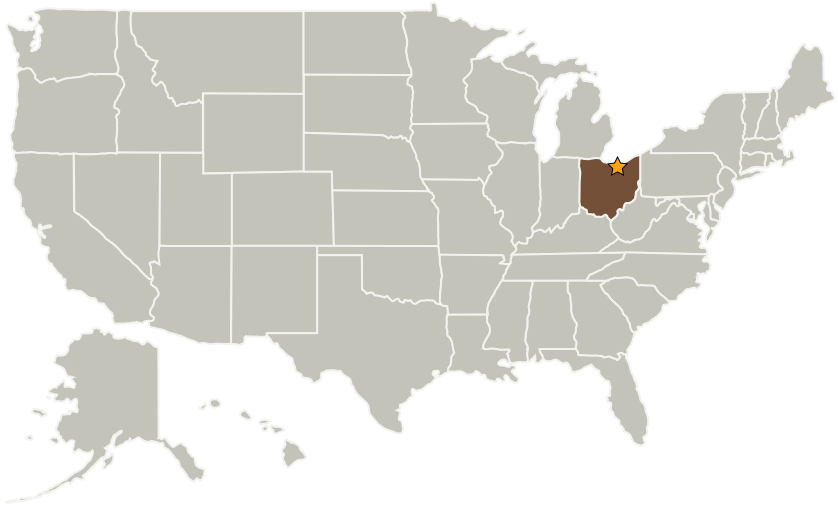
Spacesuit Sensing Data Display and Management System, Phase I

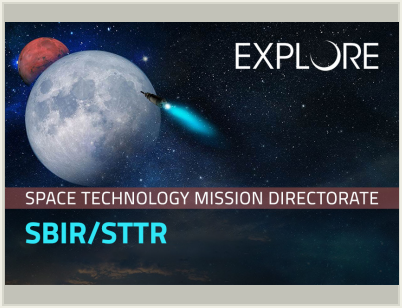
Completed Technology Project (2008 - 2008)

Project Introduction

ZIN Technologies, Inc will breadboard an integrated electronic system for space suit application to acquire images, biomedical sensor signals and suit health & status data. The system will then process, display, store, transmit and manage the results under control of embedded firmware. A commercial off-the-shelf heads-up display which is applicable to space suit helmets will be the primary display device. The system will include a breadboard version of a lightweight, low power, general purpose computing platform based on commercial-grade components with available, upgraded versions that can tolerate the EVA thermal/vacuum/radiation environment. Initial development of a camera interface will be included. A breadboard of the proposed system will be built, programmed and demonstrated. ZIN will leverage our past experience in NASA spaceflight hardware/software development and existing biomedical monitoring technology to deliver a mature concept demonstration at minimal cost and risk. The system will be compatible with medical industry standard sensors to measure CO2, core temperature and other biomedical parameters. The proposed Phase 1 effort will be geared toward future development of a Phase 2 version that could be integrated into a functional EVA system.

Primary U.S. Work Locations and Key Partners





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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Glenn Research Center (GRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Glenn Research Center(GRC)	Lead Organization	NASA Center	Cleveland, Ohio
ZIN Technologies Inc.	Supporting Organization	Industry Small Disadvantaged Business (SDB)	Middleburg Hts, Ohio

Primary U.S. Work Locations
Ohio

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

David R Hall

Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  - TX06.2 Extravehicular Activity Systems
    - TX06.2.3 Informatics and Decision Support Systems